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(54) **PLIABLE PROXIMITY SWITCH ASSEMBLY AND ACTIVATION METHOD**

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CPC ... ***H03K 17/955*** (2013.01); *H03K 2217/94052* (2013.01); *H03K 2217/960705* (2013.01); *Y10T 307/826* (2015.04)

(58) **Field of Classification Search**
CPC G01R 27/2605; G01D 5/24; G01L 9/12
See application file for complete search history.

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(57) **ABSTRACT**

A proximity switch assembly and method for detecting activation of a proximity switch assembly is provided. The assembly includes a plurality of proximity switches each having a proximity sensor providing a sense activation field and control circuitry processing the activation field of each proximity switch to sense activation. A pliable material overlays the proximity sensors. The control circuitry monitors the activation field and determines an activation of a proximity switch based on a signal generated by the sensor in relation to a threshold when a user's finger depresses the pliable material. The pliable material may further include an elevated portion and an air gap between the elevated portion and the sensor.

17 Claims, 19 Drawing Sheets